



Examining The Influence Of Management Strategies On Green Loans, Enhanced Risk Management, And Business Opportunities In Chinese Banks

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Citation: Hu Zingnan et al. (2024) Examining The Influence Of Management Strategies On Green Loans, Enhanced Risk Management, And Business Opportunities In Chinese Banks, *Educational Administration: Theory and Practice*, 30(4), 9932-9937, Doi: 10.53555/kuey.v30i4.6083

ARTICLE INFO ABSTRACT

Climate change deserves the full focus of academics since it is a critical and immediate problem. Consequently, many banks now provide "green finance" to businesses who pledge to combat climate change via the launch of low-carbon initiatives. Nevertheless, the problem of inadequate green financing persists. In order to address this funding gap, this empirical study examines green finance in China from the perspective of the Chinese financial institutions that provide these loans. Following the Chinese government's release of the Green Credit Policy, green financing in the country has seen fast growth. Green loans might be offered by banks for a variety of reasons, such as to mitigate compliance risk, expand the company's commercial potential, safeguard the company's reputation, or manage credit risk. The primary purpose of this article is to investigate the claims that green loans enhance risk management and boost business potential. In this researcher have researched and analyzed the Chinese banking system and its Green Credit Policy. This research highlights a unique aspect of China's banking system—the substantial participation of the government—and speculates on the possible role of the government in the spread of green financing in China. The goal of creating this dataset was to enable quantitative analysis, hence a panel design was used. From 2009 to 2015, twenty-four different Chinese banks contributed data on green banking and green financing to the collection. To determine if the banks' participation in green financing improved their bottom lines, researchers used panel regression techniques including Random-effect Panel Regression and Two-stage Least Square Regression Analysis.

KEYWORDS: Green Loans, Risk management, Chinese banks, Business opportunities.

1. INTRODUCTION:

A greener economy aims to combat climate change while also protecting the environment. In this context, reducing the effects of climate change and filling the funding gap for low-carbon initiatives are the two biggest obstacles. In order to address this issue, this article will explore green finance in China using empirical means and provide insights into potential avenues for further green financing. At its highest point, China was responsible for 30% of the world's emissions. There has been a restriction on the amount of money that banks may lend to companies that pollute, produce emissions, or have excess capacity since 2007. Furthermore, they were compelled to provide green funding for projects that save energy, safeguard the environment, and lessen emissions. The number of enterprises that prioritize sustainability while maintaining a healthy bottom line has increased dramatically since then (Giese, 2019).

2. BACKGROUND OF THE STUDY:

A large number of scientists attribute the majority of the Earth's warming to human activities that generate a great deal of carbon dioxide. There is no release of toxic substances or contaminants by lending financial organizations. The evidence connecting bank lending policies to ecologically destructive economic activity, however, is growing. When banks lend money to projects that don't follow environmental rules, they're really

helping to promote and enable industrial pollution. Governments, banks, and NGOs all agree that sustainable development is the best way to tackle the world's mounting environmental catastrophe. A coalition of commercial banks and the UN Environment Program (UNEP) came together in May to form the Banking Initiative and release a statement on environmental and sustainable development concerns. Banks should prioritize sustainable development and play a vital role in attaining it, according to the UNEP Financial Initiative. In the time after, financial institutions made some efforts to aid in sustainable development.

In order for banks to back projects that were good for society and the environment, they established the Equator Principles (EP). When determining whether to finance more than \$10 million for new projects, the Equator Principles Association requests that banks consider social and environmental risks. The bank is requested to either reject the project or provide other services like consulting, project financing, corporate loans, or bridging loans if it doesn't fulfill these requirements. As a result of the EP, international development institutions like the World Bank are no longer held responsible for responsive banking. More than 70% of the world's project finance debt in developing nations is backed by the Equator Principles, which have been adopted by 91 financial institutions from 37 countries.

The UN Global Compact (UNGC) and the UN Concepts are two of the most well-known initiatives and frameworks related to green finance. The United Nations General Assembly encompasses anti-corruption efforts, human rights, labor-environment relations, and the UNGC's Ten Voluntary Principles on the Environment. To combat environmental crises and encourage the creation and dissemination of eco-friendly technology, the United Nations Global Compact (UNGC) urges corporations to step up their game. Following the six voluntary and aspirational UN Principles for Responsible Investment is one approach to include ESG considerations into investment decisions.

The principles have 1,750 signatories, representing assets worth an estimated US\$70 trillion, hailing from more than 50 nations.

A coalition of cooperative financial institutions supports each of these endeavors. Reputation, public awareness, and investor support are all positive aspects of the initiatives, but more openness and stricter standards could be problems (Ionescu, 2021).

3. RESEARCH OBJECTIVES:

- How is China using green finance to help the environment?
- What is green loan policy China?
- Which financing institutions are supportive for doing business in China?
- What are the advantages and disadvantages of green lending?

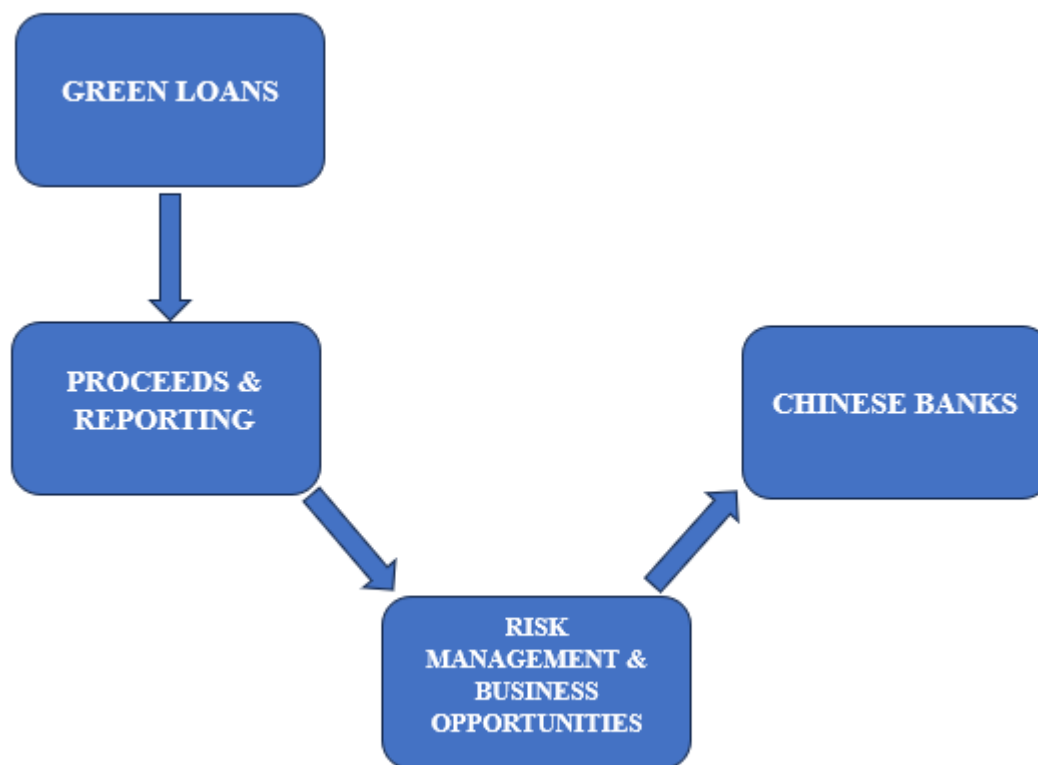
4. LITERATURE REVIEW:

These days, research into "green finance" is all the rage. Having said that, the words "green finance" and such are not yet defined in a consensus among experts. Since they are often used in the study, the terms "green credit," "sustainable banking," and "green finance" are defined here. Here, scholars will review the existing literature on the topic, draw out the commonly accepted definitions, and finally provide a more exact description. Research uses varying definitions of "green finance," making it difficult to compare findings. A variety of phrases are used to describe "green finance" in scholarly works. There were a few fundamentals on which everyone could reach a consensus back then. Höhne and colleagues argue that "green finance is a wide phrase that may refer to financial investments pouring into sustainable development projects and initiatives, environmental goods, and policies that stimulate the development of a more sustainable economy." Greenhouse gas (GHG) emission reduction, industrial pollution management, and biodiversity conservation are all potential outcomes of such monetary interventions. Using environmental elements in all phases of loan decision-making, ex-post monitoring, and risk management processes is a financial product or service that "8" PricewaterhouseCoopers Consultants (PWC) recommends.

According to Lindenberg, green finance consists of three parts: First, a green financial system that prioritizes environmentally conscious investments; second, governmental green policies that encourage the implementation of green projects and initiatives; and third, green investments as a strategy to avert environmental disasters like climate change.

According to most academic publications, "green finance" refers to any financial service or product developed specifically to aid eco-friendly projects, such green building or renewable energy. The word covers all types of financial aid for sustainable development, as its wide meaning suggests. When trying to restrict eco-friendly investments and activities, the main problem is defining what does and does not constitute sustainable development initiatives or ecologically responsible investments (Yuan, 2018).

5. CONCEPTUAL FRAMEWORK:



6. METHODOLOGY:

Theoretical groundwork for this study was provided by Weber et al. Banks place a premium on risk management since green financing might provide significant returns. The findings of Aizawa and Yang support this. Using matching tests, two-stage Least Square regression analysis, and random-effects panel regression, this research seeks to determine whether these are the main reasons why banks provide green financing.

a. Research Design

Management is mostly responsible for deciding how involved a company is in green financing. There are five primary factors that banks consider when making decisions: performance, interest rate and security concerns, liquidity and capital management, investments, globalization, loans and credit management, and technology. Find out whether green money can accomplish what the decision-makers want. The work of Weber et al. serves as the foundation for the study's theoretical framework. For several reasons, such as managing credit risk, opening up new business opportunities, protecting the firm's brand, and mitigating compliance risk, banks are considering green financing. Since the other two explanations cannot be quantified, the researchers are limited to examining the first two.

b. Sampling and Data collection

For the purpose of selecting the sample, "major banks" and being publicly traded are the two main criteria. Various financial papers, including press releases and fresh reports from the CBRC, use the term "big banks." "Major banks" are defined by the Bank for International Settlements as all of China's banking institutions, including policy banks, state-owned commercial banks, and national joint-stock commercial banks. Since the China Securities Regulatory Commission requires these financial institutions to report certain information, this dataset contains publicly listed banks in China (CSRC). For the benefit of Chinese and Qualified Foreign Institutional Investors (QFII), 33 banks were listed on the Shanghai Stock Exchange (SSE), the Shenzhen Stock Exchange (SZSE), or on both the SSE/SZSE and the SEHK. In the beginning, 39 out of China's banks fulfilled both of these requirements. A total of fifteen financial institutions—five policy banks, five state-owned, twelve joint-stock, one postal savings, and fourteen city commercial banks—make up the sample. Out of them, three are unlisted.

7. RESULT:

Statistical model test results are provided with the accompanying descriptive statistics. Green credit is outpacing overall loans in terms of growth rate, as shown by descriptive statistics and regression models.

- **Analytical statistics**

"Difference between growth of green credit to growth of total loans" as well as the counts, standard deviations, skewness, and kurtosis of the sample banks are shown in Table 1. If both datasets are available for the same year, researchers may find the "difference between growth of green credit to growth of all loans" by subtracting the growth of green credit from the growth of all loans.

Compared to the overall growth rate of loans in the dataset, descriptive statistics reveal that green loans are growing at a faster rate. The large standard deviation indicates that green credit is expanding at various rates among institutions. Positively skewed or right-hand tailed data is indicated by a skewness score higher than 1. On the other hand, data with a high kurtosis is highly skewed or peak shaped.

Upon closer inspection, green loans provide higher profits for state-owned and municipal commercial banks as compared to joint-stock commercial banks. Even if they were hesitant at first, city commercial banks have come a long way in accepting green finance. Green credit growth outpaced overall loan growth for city commercial banks during that two-year period.

"Table 1: "Descriptive Statistics for Difference Between Growth of Green Credit and Total Loans""

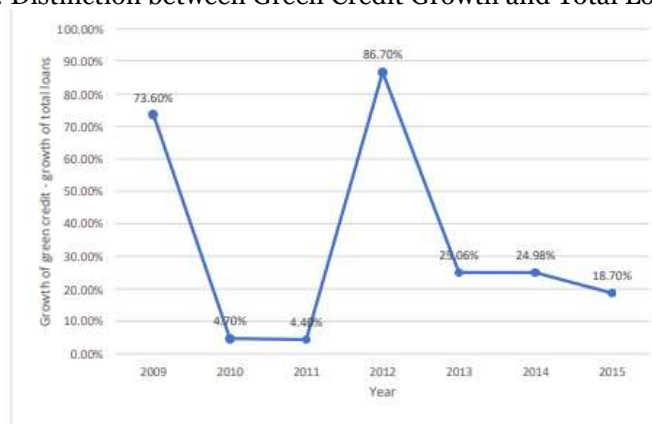
	YEAR	MEAN	SD	SKEWNESS	KURTOSIS	COUNT
ALL	2009	73.60%	141.83%	1.677	1.591	8
	2010	4.70%	56.58%	1.872	6.367	13
	2011	4.40%	22.12%	-0.549	0.692	17
	2012	86.70%	185.91%	2.413	5.690	20
	2013	25.06%	66.02%	2.916	10.214	23
	2014	24.98%	70.91%	3.008	11.032	23
	2015	18.70%	57.05%	3.725	15.953	23
STATE - OWNE D (5 TOTAL) IN	2009	-5.59%	5.60%	N/A	N/A	2
	2010	-5.14%	13.79%	0.423	-2.183	5
	2011	11.36%	14.72%	1.023	0.184	5
	2012	4.86%	30.82%	1.960	3.988	5
	2013	37.91%	54.70%	0.590	-2.971	5
	2014	2.09%	17.63%	1.392	1.944	5
	2015	19.81%	17.21%	-0.250	-2.173	5
JOINT- STOCK (10 IN TOTAL)	2009	154.01%	172.28%	0.476	-3.301	4
	2010	12.66%	93.26%	1.363	2.996	5
	2011	-0.90%	28.23%	-0.270	-0.250	8
	2012	136.12%	245.13%	1.728	2.118	10
	2013	28.75%	91.28%	2.832	8.354	10
	2014	6.39%	21.45%	0.856	0.766	9
	2015	-2.91%	19.70%	0.955	0.525	9
CITY (8 TOTAL) IN	2009	-8.32%	N/A	N/A	N/A	1
	2010	-2.10%	38.04%	N/A	N/A	2
	2011	4.95%	20.99%	1.393	N/A	3

2013	14.98%	32.48%	0.295	-0.213	7
2014	57.15%	114.06%	1.644	2.988	8
2015	45.47%	90.03%	2.466	6.437	8

Since 2009, it has stayed relatively unchanged. This demonstrates that throughout the rule-making process, financial institutions were reacting to the new regulations. Figure 1 uses a 2009 base index value of 100 to compare the total amount of green credits to the total loan debt. Green credit and total loan interest rates may be quickly and easily compared using the index number. While overall loan growth has been moderate as of late, the amount of green credit has been expanding at a dizzying rate. This also explains why the gap between the two indices widens with time.

Compared to overall loans, green credit seems to be expanding more rapidly in the descriptive statistics. The disparity in growth rates, which ranges from 25% to 50% over the course of the seven years, is narrowing.

Figure 1: Distinction between Green Credit Growth and Total Loan Growth



• **Regression Analysis for Hypothesis**

At a significant level of 5.4%, the test findings from the GLS random-effects panel regression indicated that there was a 0.014 percent increase in total loans for every 1% increase in green credit.

Regardless matter how near the significance level is to 5%, the model's output still fails to support the premise that total loan growth would be boosted by an increase in green credit growth.

Other regression approaches could be used if researchers are looking for a better statistical model for "Test".

Table 2: Test Results of Panel Regression Analysis for Hypothesis" 1"

Growth of total loans	Coefficient	SD	P>z
Growth of green credit	0.014	0.007	0.054
Constant	0.172	0.008	0.000*
R-sq	0.0313		
Sig	0.0541		

8. PURPOSE OF THE RESEARCH

Chinese banks are now required to report on green loans, and there is an official framework for green finance activities. The green finance sector is seeing explosive growth because to China's Green Credit Policy. As an excellent example of green finance, China's Green Credit Policy involves several actors and has a balance of 8.08 trillion RMB. The Green Loans Policy stands out for another reason: its consistency. The main Chinese banks all adhere to the same rules when it comes to environmentally friendly financing. If one looks at the CBRC's 2013 evaluation of the bank's Green Credit Policy, one can see how it stacks up against competitors. The Green Credit Policy in China can be an interesting case study for other organizations. There are a variety of approaches used by the Western banking sector in their pursuit of green financing. Banks in the West are not required by regulations to provide environmentally friendly loans. In contrast to the Green Credit Policy in China, there are no new procedures or requirements for green finance. various Western organizations use various terms when discussing environmentally responsible funding, for instance. The term "as researchers sew" has far too many similar meanings to be distinguished from other concepts. While UNEP, the EP, and the UNGC have all put up proposals to provide the groundwork for green financing, none of them have succeeded in boosting its development. When it comes to green financing, Western bank decision-makers' understanding

of CSR and sustainable development matters more than Chinese regulatory rules. Whatever the case may be, green financing in China increased from zero to 8.08 trillion RMB in 2015. Banks may be driven by financial incentives, since green financing has been expanding at a fast pace (**Gunawan, 2022**).

9. DISCUSSION

Results from the GLS random-effects panel regression test showed that overall loans increased by 0.014 percent for every 1% rise in green credit, which is statistically significant at the 5.4% level. Model findings do not support the prediction that total loan growth would increase in response to an increase in green credit growth, even if the threshold of significance is quite near to 5%. However, in order to discover a more suitable statistical model that corresponds to "Test ", researchers may explore other regression approaches. I agree with what Aizawa and Yang found. Research by Aizawa and Yang indicates that carbon financing and renewable energy projects may benefit financial firms. When there's a good chance that an early-stage company will obtain first-mover advantage (FMA), investors are more willing to put money into it. Banks and other financial organizations may enhance their bottom lines while decreasing their negative impacts on the environment by exploring these untapped sources of revenue. In line with the Green Credit Policy's objective of encouraging commercial banks to provide a greater proportion of green loans, these outcomes are acceptable. These test results show that the Green Credit Policy worked. The case study was chosen with the Chinese banking sector in mind due to its emphasis on green finance. If managers want to boost their bottom line, the conceptual framework suggests they expand their lending business while reducing default risk. Management stands to gain financially if they increase the number of green loans they make available, thanks to the many advantages including lower risk and better access to new business opportunities. Since green loans increase company growth while decreasing the loan portfolio's default risk, managers may be able to attain their targeted better financial performance with these loans.

10. CONCLUSION:

From the vantage point of China's banking industry, this paper analyzes the fast growing green financing business. Researchers will analyze twenty-four institutions' financial and environmental performance using panel regression approaches such as Two-stage Least Square Regression Analysis and Random-effect Panel Regression. Research is scheduled to take place from 2022 until 2024. Banks may find financial incentives to keep offering green loans based on the results. According to the results of this study, green finance is a rapidly expanding market segment. A bank's portfolio might be enhanced with considerable volumes of green credit to decrease the nonperforming loan ratio, which is one measure of credit risk. Reducing the amount of money given to polluting, emission-heavy, or overcapacity companies could help with the nonperforming loan issue.

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